

## **IN THE CLAIMS**

1-3. (Cancelled)

4. (Currently Amended) ~~The mirror according to claim 1,~~ A mirror comprising a multi-layer thin film, wherein said multi-layer thin film comprises a first layer and a second layer,

said first layer has a reflection surface plane,

said second layer has a contact plane with a substrate,

an angle between said reflection surface plane and said contact plane is 45° or equal to an angle between (100) plane orientation and a (111) plane orientation in a silicon crystal, and

said mirror has an interior concave portion adjacent to the reflection surface plane which is filled with a non-atmospheric material,

wherein said non-atmospheric material is one of a resin composition containing an active energy line polymerization initiator and an active energy line reaction resin.

5. (Original) The mirror according to claim 4, wherein said active energy line reaction resin is one of phenol novolak type epoxy resin, cresol/volak type epoxy resin, glycyclamine type epoxy resin and biphenyl type epoxy resin.

6-12. (Cancelled)

13. (Currently Amended) ~~The mirror according to claim 10,~~ A mirror comprising a gold layer, wherein said gold layer has a reflection surface plane and a contact plane,

an angle between said reflection surface plane and said contact plane is 45° or equal to an angle between (100) plane orientation and a (111) plane orientation in a silicon crystal, and

said mirror has an interior concave portion adjacent to the reflection surface plane which is filled with a non-atmospheric material,

wherein said non-atmospheric material is one of a resin composition containing an active

energy line polymerization initiator and an active energy line reaction resin.

14. (Original) The mirror according to claim 13, wherein said active energy line reaction resin is one of phenol novolak type epoxy resin, cresol/volak type epoxy resin, glycidamine type epoxy resin and biphenyl type epoxy resin.

15-19. (Cancelled)

20. (Currently Amended) An optical circuit comprising:

a substrate;

an optical fiber or an optical waveguide provided for said substrate;

a photodiode or a surface emission type laser provided for said substrate;

a mirror connected with said substrate;

at least a cantilever of said substrate, wherein said mirror is installed in a tip portion of said at least a cantilever; and

an expanding and contracting member which moves said tip portion upwardly and downwardly,

wherein said mirror comprises a multi-layer thin film, which comprises a first layer and a second layer,

said first layer is a reflection surface plane, said second layer has a contact plane with a substrate,

an angle between said reflection surface plane and said contact plane is 45° or equal to an angle between (100) plane orientation and a (111) plane orientation in a silicon crystal and

said mirror has an interior concave portion adjacent to the reflection surface plane which is filled with a non-atmospheric material. ~~The optical circuit according to claim 19, further comprising:~~

~~at least a cantilever of said substrate, wherein said mirror is installed in a tip portion of said at least a cantilever; and~~

~~an expanding and contracting member which moves said tip portion upwardly and downwardly.~~

21. (Original) The optical circuit according to claim 20, wherein said expanding and contracting member is one of a piezoelectric element, an electric distortion actuator, a magnetic distortion actuator, and a phase transition material.

22-23. (Cancelled)

24. (Currently Amended) An optical circuit comprising:

a substrate;

an optical fiber or an optical waveguide provided for said substrate;

a photodiode or a surface emission type laser provided for said substrate; and

a mirror connected with said substrate,

wherein said mirror comprises a multi-layer thin film, which comprises a first layer and a second layer,

said first layer is a reflection surface plane, said second layer has a contact plane with a substrate,

an angle between said reflection surface plane and said contact plane is 45° or equal to an angle between (100) plane orientation and a (111) plane orientation in a silicon crystal, and

said mirror has an interior concave portion adjacent to the reflection surface plane which is filled with a non-atmospheric material,

~~The optical circuit according to claim 19,~~ wherein said non-atmospheric material is one of a resin composition containing an active energy line polymerization initiator and an active energy line

reaction resin.

25. (Original) The optical circuit according to claim 24, wherein said active energy line reaction resin is one of phenol novolak type epoxy resin, cresol/volak type epoxy resin, glycyclamine type epoxy resin and biphenyl type epoxy resin.

26-34. (Cancelled)

35. (Currently Amended) An optical circuit comprising:

a substrate;

an optical fiber or an optical waveguide provided for said substrate;

a photodiode or a surface emission type laser provided for said substrate; and

a mirror jointed with said substrate,

wherein said mirror comprises a gold layer, which comprises a reflection surface plane

and a contact plane,

an angle between said reflection surface plane and said contact plane is 45° or equal to an angle between (100) plane orientation and a (111) plane orientation in a silicon crystal and

said mirror has an interior concave portion adjacent to the reflection surface plane which is filled with a non-atmospheric material,-

~~The optical circuit according to claim 30,~~ wherein said non-atmospheric material is one of a resin composition containing an active energy line polymerization initiator and an active energy line reaction resin.

36. (Original) The optical circuit according to claim 35, wherein said active energy line reaction resin is one of phenol novolak type epoxy resin, cresol/volak type epoxy resin, glycyclamine type epoxy resin and biphenyl type epoxy resin.

37-40. (Cancelled)